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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 10/073,059 | 02/12/2002 | Phi Cam Thang | 84201-602 ADB | 2405 |
| 23529 | 7590 | 11/15/2005 | EXAMINER | |
| ADE & COMPANY 1700-360 MAIN STREET WINNIPEG, MB R3C3Z3 CANADA | | | NGUYEN, BINH QUOC | |
| | | | ART UNIT | PAPER NUMBER |
| | | | 2664 | |

DATE MAILED: 11/15/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action SummaryApplication No. **10/073,059**Applicant(s) **THANG ET AL.**

Examiner

Binh Q. Nguyen

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– The MAILING DATE of this communication appears on the cover sheet with the correspondence address –
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 03 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 02/12/2002.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-14 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-14 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Objections

1. **Claims 6, and 10** are objected to because of the following informalities:

Regarding claim 6; “the algorithm specified in the specification” on line 2 of claim 6, must be changed to “-- a algorithm specified in the specification --”. Appropriate correction is required.

Regarding claim 10;“the ANEP header” on line 3 of claim 10, must be changed to “-- an ANEP header --”. Appropriate correction is required.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. **Claim 1-14** are rejected under 35 U.S.C. 102(e) as being anticipated by *Andersson et al* the Pub. No. (U2002/0004843).

Regarding claim 1; *Andersson* teaches a method of restoring an IP network(*see paragraph [0056]*) in the event of a communication failure between two routers comprising (*see Fig. 4, paragraph [0064]*):

providing an IP network comprising (*see paragraphs [0056], [0131]*):

a plurality of routers(*see paragraph [0064]*);

a plurality of links (*see paragraph [0011]*) between the routers for communication of data between each router and any other one of the routers (*see paragraph [0084]*), the links being arranged to provide between each router and each of the other routers at least two alternative paths (*see paragraph [0043]*, “*alternate paths are referred to hereinafter as recovery paths or recovery routes*” means at least two alternative paths);

the network being arranged such that each router is provided with a respective primary routing table (*see paragraph [0041]*) by which there is provided for that router a respective one of a plurality of preferred paths selected from the alternative paths from that router to each of the other routers(*see paragraph [0056-0057]*);

communicating the data between the routers using for routing the data the primary routing tables (*see paragraph [0041]*);

before a communication failure occurs, pre-calculating for the network (*see paragraph [0100]*) a plurality of spanning trees (*see paragraph [0006]*) arranged to provide alternative paths in the event that communication between two routers is determined to have failed (*see paragraphs [0043-0048]*);

for each of the calculated spanning trees, providing for each the routers a respective one of a plurality of restoration routing tables (*see paragraphs [0043-0048, 0051, 0073]*, “*the recover*

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paths have been computed and installed in the forwarding tables” means a plurality of restoration routing tables) and storing in a memory associated with each router the plurality of restoration routing tables for that router in preparation for a communication failure (see paragraph [0073, 0142-0144], “In the protected state” means in preparation for a communication failure);

detecting a fault indicative of a communication failure (see paragraphs [0048, 0056-0057]);

depending upon the two routers between which the communication is determined to have failed, selecting one of the spanning trees and the restoration routing tables associated with that spanning tree (see paragraphs [0063-0064]);

communicating to the routers an instruction to transfer routing from the primary routing table to the selected one of the pre-calculated restoration routing tables stored in the memory of the router (see paragraphs [0056], and [0097-0101] “When the failure indication reaches a node that is capable of performing the switch over (including the detecting node), that node performs the switch over to the recovery paths in order to bypass the network failure (state 4)” means communication to the routers an instruction to transfer...of the router);

and communicating the data between the routers using the selected (see paragraph [0064]), pre-calculated (see paragraph [0100]), stored restoration routing tables (see paragraphs [0073], [0101]).

Regarding claim 2. *Andersson* teaches the method according to claim 1 wherein routing is transferred to the restoration tables substantially without delay (see paragraph [0055]).

Regarding claim 3. *Andersson* teaches the method according to claim 1 wherein there are two spanning trees (see paragraph [0006]) and for each router two restoration tables (see paragraph [0101], “the forwarding tables” mean two restoration tables).

Regarding claim 4. *Andersson* teaches the method according to claim 1 wherein there are three spanning trees (*see paragraph [0006]*) and for each router three restoration tables (*see paragraph [0101]*, “the forwarding tables” could also meaning three restoration tables).

Regarding claim 5. *Andersson* teaches the method according to claim 1 wherein the spanning trees are pre-calculated to minimize number of spanning trees necessary to restore all paths (*see paragraph [0006]*).

Regarding claim 6. *Andersson* teaches the method according to claim 1 wherein the spanning trees are pre-calculated by the algorithm specified in the specification (*see paragraphs [0006, 0043, 0063]*).

Regarding claim 7. *Andersson* teaches the method according to claim 1 wherein, when a communication failure is detected by a router, that detection of a communication failure causes a communication to all other routers to use the restoration table (*see paragraphs [0085-0090]*).

Regarding claim 8. *Andersson* teaches the method according to claim 1 wherein, when a communication failure is detected by a router (*see paragraphs [0041, 0084]*), that detection of a communication failure causes a communication only to edge routers and wherein the edge routers are arranged to modify the communicated data to communicate the requirement to use the restoration tables to internal routers (*see paragraphs [0085-0095]*).

Regarding claim 9. *Andersson* teaches the method according to claim 1 wherein the communicated data is modified by adding a tag (*see paragraphs [0039-0041]*).

Regarding claim 10. *Andersson* teaches the method according to claim 1 wherein the communicated data is modified by changing the information contained in the ANEP header (*see paragraphs [0040, 0067, and 0105-0108]*).

Regarding claim 11. *Andersson* teaches the method according to claim 1 wherein the restoration tables form a first fault response system and there is provided a secondary fault response system in which, after a pre-determined delay (*see paragraphs [0055-0057]*) after detection of a fault without the communication being restored, the primary router tables are recalculated taking into account the absence of the failed communication and the routers arranged to transfer routing back to the re-calculated primary routing tables (*see Fig. 6, state 6, paragraphs [0042, 0056], and [0123-0129]*).

Regarding claim 12. *Andersson* teaches the method according to claim 11 wherein primary routing table is re-calculated to provide optimum paths (*see Fig. 6, state 6, paragraphs [0042, 0056], and [0123-0129]*).

Regarding claim 13. *Andersson* teaches the method according to claim 11 wherein primary routing tables are re-calculated by the routers (*see Fig. 6, state 6, paragraphs [0042, 0056], [0125]*).

Regarding claim 14. *Andersson* teaches the method according to claim 1 wherein the fault detection is generated in response to a detection in the physical layer (*see paragraphs [0014-0015, and 0078]*) so as to be substantially without delay (*see paragraphs [0055]*).

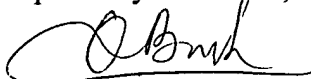
Contact Information

4. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Binh Q. Nguyen whose telephone number is 571-272-8563. The examiner can normally be reached on M-F: 9:00 AM - 5:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wellington Chin can be reached on 571-272-3134. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Respectfully submitted,



Binh Q. Nguyen
Patent Examiner
11/09/2005



WELLINGTON CHIN
SUPERVISORY PATENT EXAMINER